State of the Workforce Report IX:
Region 4

Funding for this project was provided by

Alabama Department of Economic and Community Affairs

Alabama Department of Labor

Alabama Department of Postsecondary Education

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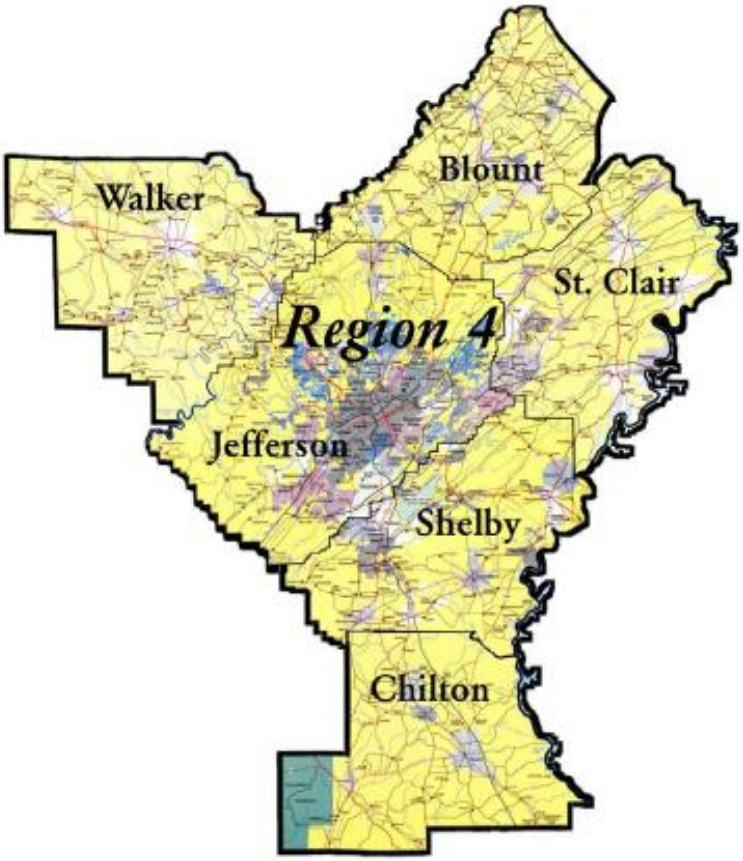

June 2015

Center for Business and Economic Research
Culverhouse College of Commerce

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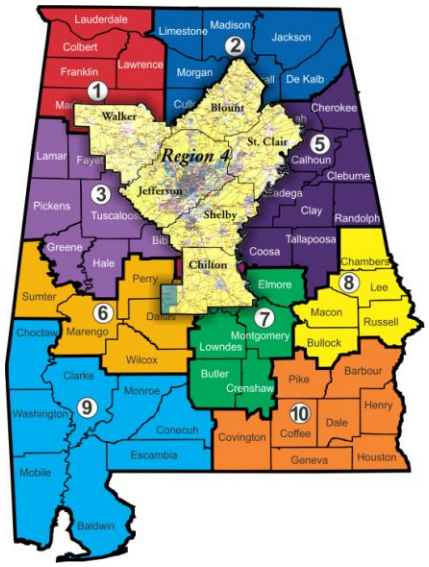
Institute for Social Science Research

THE UNIVERSITY OF ALABAMA

State of the Workforce Report IX: Region 4



June 2015

by

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Contents

Summary

- This report analyzes workforce supply and demand issues using available metrics of workforce characteristics for Workforce Development Region 4 and presents some implications and recommendations.

- Region 4 had a 4.8 percent unemployment rate in April 2015, with 25,381 unemployed. An underemployment rate of 25.1 percent for 2014 means that the region has a 151,591-strong available labor pool that includes 126,210 underemployed workers who are looking for better jobs and are willing to commute farther and longer for such jobs.

- Commute time rose in 2014 from 2013 but commute distance dropped implying that congestion worsened somewhat. As the region recovers from the recent recession, congestion is likely to continue worsening. Thus, continuous maintenance and development of transportation infrastructure and systems is strongly needed to avoid slowing economic development.

- By sector the top five employers in the region are health care and social assistance; retail trade; accommodation and food services; educational services; and manufacturing. In the second quarter of 2014 these five industries provided 253,096 jobs, 51.7 percent of the regional total. Among the leading employers, only manufacturing and health care and social assistance had higher monthly wage than the $3,556 regional average. Economic development should continue to diversify and strengthen the region's economy by retaining, expanding, and attracting more high-wage providing industries. Workforce development should also focus on preparing workers for these industries.

- On average 22,173 jobs were created per quarter from second quarter 2001 to second quarter 2014; quarterly net job flows averaged 1,870. Job creation is the number of new jobs that are created either by new businesses or through expansion of existing firms. Net job flows reflect the difference between current and previous employment at all businesses.

- The top five high-demand occupations are Registered Nurses; Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products; Personal Care Aides; Home Health Aides; and Licensed Practical and Licensed Vocational Nurses.

- The top five fast-growing occupations are Special Education Teachers, Preschool; Biological Science Teachers, Postsecondary; Personal Care Aides; Home Health Aides; and Community Health Workers.

- The top 50 high-earning occupations are mainly in management, health, and engineering fields and have a minimum mean salary of $89,114. Eight of the top 10 are health occupations.

- Of the top 40 high-demand, the top 20 fast-growing, and 50 high-earning occupations, seven are both high-demand and high-earning and nine are both high-demand and fast-growing. Only one occupation—Personal Financial Advisors—is in all three categories.

- Of the region's 743 occupations, 81 are expected to decline over the 2012 to 2022 period. Twenty occupations are expected to sharply decline by at least 10 percent, with each losing a minimum of 20 jobs. Education and training for these 20 occupations should slow accordingly.

- Skill and education requirements for jobs keep rising. Educational and training requirements of high-demand, fast-growing, and high-earning occupations demonstrate the importance of education in developing the future workforce. In the future, more jobs will require postsecondary education and training at a minimum.

- The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs indicates a strong need for training in these skills. For Region 4 the pace of training needs to increase for technical, systems, and complex problem solving skills. The scale of training should be raised for basic and social skills. Ideally, all high school graduates should possess basic skills so that postsecondary and higher education can focus on other and more complex skills. Employers should be an integral part of planning for training as they can help identify future skill needs and any existing gaps.

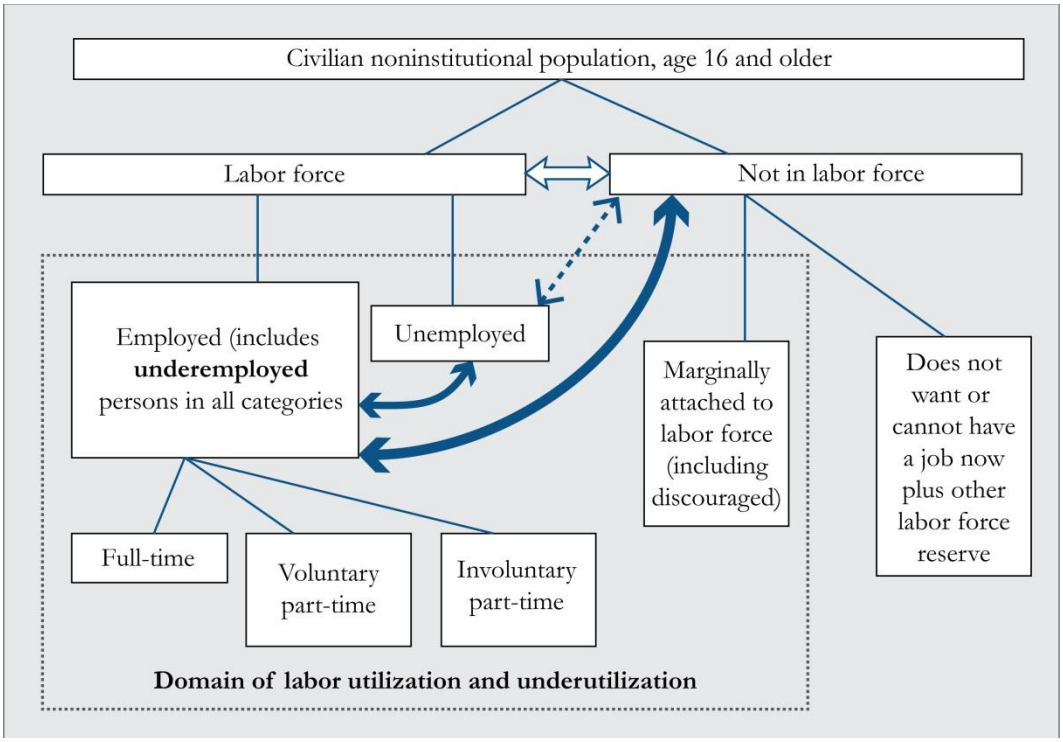
- From a 2012 base, worker shortfalls of 46,106 and 34,193 are estimated for 2022 and 2030 respectively. This will demand a focus on worker shortfalls and skills through 2030. Worker shortfalls for critical occupations will need to be addressed continuously. Strategies to address skill needs and worker shortfalls might include: (i) improvements in education and its funding; (ii) use of economic opportunities that attract new and younger residents; (iii) focus on hard-to-serve populations (e.g. out-of-school youth); (iv) lowering the high school dropout rate; (v) continuation and enhancement of programs to assess, retrain, and place dislocated workers; and (vi) facilitation of in-commuting.

- Improving education is important because (i) a highly educated and productive workforce is a critical economic development asset, (ii) productivity rises with education, (iii) educated people are more likely to work, and (iv) it yields high private and social rates of return on investment. Workforce development must view all of education and other programs (e.g. adult education, career technical training, worker retraining, career readiness, etc.) as one system. Funding to support workforce development may require tax reform at state and local levels and should provide for flexibility as workforce needs change over time and demand different priorities. Publicizing both private and public returns to education can encourage individuals to raise their own educational attainment levels, while also promoting public and legislative support for education.

- Higher incomes that come with improved educational attainment and work skills will help to increase personal income for the region as well as raise additional local (county and city) tax revenues. This is important, even for a region that already has about average population and labor force growth rates.

- Workforce development and economic development can together build a strong and well-diversified Region 4 economy. Indeed, one cannot achieve success without the other.

Labor Utilization and Supply Flows



Source: Addy et al[1] and Canon et al[2]

The chart above presents labor utilization and supply flows that explain labor market dynamics in view of recent study findings. The civilian noninstitutional population age 16 and above is comprised of participants in the labor force and nonparticipants. The labor force is made of employed and unemployed persons; the unemployed do not have a job but are actively searching for work. Employed persons include fully employed and underemployed persons in all categories of work (full-time, voluntary part-time, and involuntary part-time). Nonparticipants in the labor force include retirees (voluntary and involuntary), people who do not want to or cannot work for various reasons (e.g., disability, caring for family members, in school or training, etc.), discouraged workers, and other labor force reserves. It has been suggested that a subgroup of nonparticipants referred to as the "waiting group" is more likely than the rest of the nonparticipants to take a job if wages and conditions are satisfactory, but they do not actively search for work. New evidence has shown that between January 2003 and August 2013, the flow of nonparticipants into employment was 1.6 times that of unemployed persons transitioning into employment, which may be due to the presence of the waiting group[1, 2]. Nonparticipant flows to employment are larger in services, management, and professional occupations while unemployed flows to employment are higher in physically intensive occupations such as construction workers and miners. Industry effects should vary by the type and number of occupations they contain. This finding enhances the common understanding of labor market dynamics and influences workforce availability and skills gap analyses.

[1] Addy, S.N., Bonnal, M., and Lira, C. (2012). Towards a More Comprehensive Measure of Labor Underutilization: The Alabama Case, *Business Economics*, vol. 47(3).
[2] Canon, M.E., Kudlyak, M., and Reed, M. (2014). Not Everyone Who Joins the Ranks of the Employed was "Unemployed", *The Regional Economist*, January.

Workforce Supply

Labor Force Activity

The labor force includes all persons in the civilian noninstitutional population who are age 16 and over and who have a job or are actively looking for one. Typically, those who have no job and are not looking for one are not included (e.g. students, retirees, discouraged workers, and the disabled). Table 4.1 shows labor force information for Region 4 and its six counties for 2014 and April 2015. Alabama labor force information is available from the Labor Market Information (LMI) Division of the Alabama Department of Labor. LMI compiles data in cooperation with the U.S. Bureau of Labor Statistics.

Major job losses from the recession that began in December 2007 sharply raised county and regional unemployment rates. A slow recovery from the recession lowered county unemployment to a range of 4.5 percent to 7.7 percent for 2014 (6.0 percent for the region) and between 3.6 percent and 6.3 percent in April 2015 (4.8 percent for the region). The unemployment rate was lowest in Shelby County and highest in Walker. All the counties' unemployment rates were below Alabama's 5.3 percent, except in Walker.

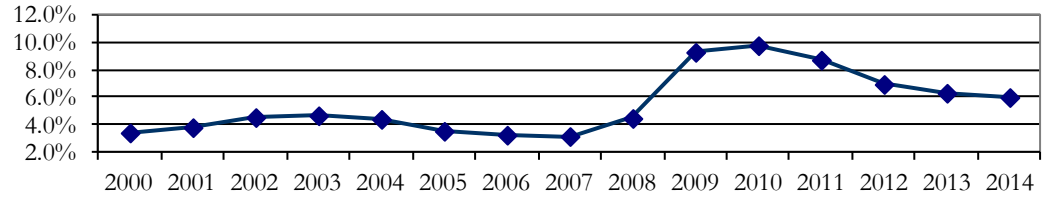
Table 4.1 Region 4 Labor Force Information

	2014 Annual Average			
	Labor Force	Employed	Unemployed	Rate (%)
Blount	24,614	23,101	1,513	6.1
Chilton	19,121	17,920	1,201	6.3
Jefferson	311,833	292,161	19,672	6.3
St. Clair	38,380	36,153	2,227	5.8
Shelby	106,051	101,254	4,797	4.5
Walker	25,912	23,924	1,988	7.7
Region 4	525,911	494,513	31,398	6.0
Alabama	2,150,118	2,003,910	146,208	6.8
United States	155,922,000	146,305,000	9,616,000	6.2
	April 2015			
	Labor Force	Employed	Unemployed	Rate (%)
Blount	24,644	23,457	1,187	4.8
Chilton	19,139	18,199	940	4.9
Jefferson	312,665	296,729	15,936	5.1
St. Clair	38,510	36,715	1,795	4.7
Shelby	106,715	102,834	3,881	3.6
Walker	25,935	24,293	1,642	6.3
Region 4	527,608	502,227	25,381	4.8
Alabama	2,151,559	2,036,483	115,076	5.3
United States	156,554,000	148,587,000	7,966,000	5.1

Source: Alabama Department of Labor and U.S. Bureau of Labor Statistics.

Annual unemployment rates for 2000 to 2014 are shown in Figure 4.1. The region's unemployment rates were low before the 2001 and most recent recessions. After rising to 4.7 percent in 2003, unemployment fell to a record low 3.2 percent in 2007 because of job gains arising from regional and state economic development successes. Unemployment rose to a record high of 9.8 percent in 2010 due to the last recession's job losses before declining to 6.0 percent in 2014. Year-to-date monthly labor force data point to a lower regional unemployment rate for 2015 than seen in 2014.

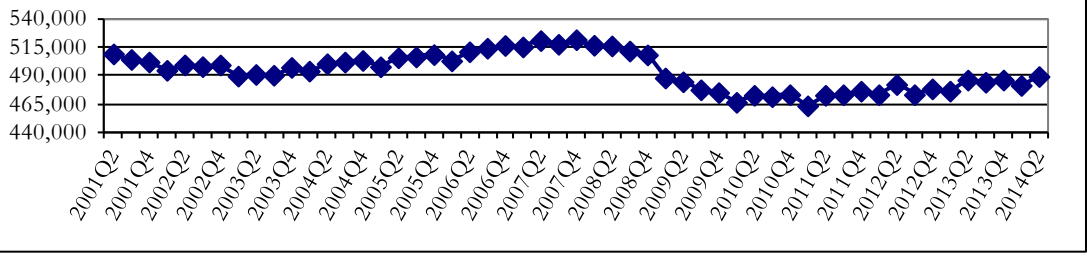
Figure 4.1 Region 4 Unemployment Rate



Source: Alabama Department of Labor.

Nonagricultural employment of the region's residents averaged 493,856 quarterly from the second quarter of 2001 to the second quarter of 2014 (Figure 4.2). The number of jobs continuously declined from the fourth quarter of 2007 through the first quarter of 2010. However, regional employment has been trending up slowly since the second quarter of 2011. By the second quarter 2014, the level of the number of jobs was about 489,000 and the highest since the fourth quarter of 2008.

Figure 4.2 Region 4 Nonagricultural Employment



Source: Alabama Department of Labor and U.S. Census Bureau.

Table 4.2 shows worker distribution by age in Region 4 for the second quarter of 2014. Older workers, age 55 and over, are 20.7 percent of the region's nonagricultural employment, the same as in the state. Workers who are age 65 and over constitute 4.8 percent of nonagricultural employment, just below Alabama's 4.9 percent. To meet long term occupational projections for growth and replacement, labor force participation of younger residents must increase or older workers may have to work longer.

Table 4.2 Workers by Age Group (Second Quarter 2014)

Age Group	Nonagricultural Employment	
	Number	Percent
14-18	7,240	1.5
19-24	50,713	10.4
25-34	111,340	22.8
35-44	110,887	22.7
45-54	107,808	22.0
55-64	77,969	15.9
65+	23,324	4.8
55 and over total	101,293	20.7
Total all ages	489,281	100.0

Note: Rounding errors may be present. Nonagricultural employment is by place of work, not residence.
Source: U.S. Census Bureau, Local Employment Dynamics Program.

Commuting Patterns

In 2005 about 27,000 more people commuted into the region for work than residents who commuted out (Table 4.3). Net in-commuting jumped up to over 30,000 in 2007 before dropping due to the last economic recession. By 2010 net in-commuting declined to 25,821 but it rose again to 28,111 in 2011. Despite the slight drop in net in-commuting, commuter outflow rose by 20.5 percent as inflow went up 15.5 percent between 2005 and 2011. Considerable commuting inside the region and the strong increase in the number of commuters point to rising congestion, especially in Jefferson and Shelby counties. Table 4.3 also shows the one-way average commute time and distance for workers in various years. Commute times went up but distances are down in 2014 from 2013. This implies that congestion worsened and is likely to continue being an issue as the regional economic recovery progresses, especially in the Birmingham-Hoover metropolitan area. To ensure a smooth and fast flow of goods and movement of workers, regional transportation infrastructure and systems must be maintained and developed properly. Impeding the mobility of workers and goods can delay or slow economic development. Projects such as the Northern Beltline that is under construction in Birmingham will improve infraction once completed.

Population

The Region 4 population count of 1,105,132 for 2010 is 7.1 percent more than in 2000 (Table 4.4). This growth rate is somewhat lower than Alabama's 7.5 percent. The population grew in four counties and shrank in two. Population growth was fastest in Shelby County followed by Saint. Clair. The 2014 estimates show a 1.5 percent population growth from 2010 with the highest growth occurring in Shelby and Saint Clair counties. Table 4.5 shows population counts, estimates, and projections by age group. The population aged 65 and over is expected to grow rapidly, with the first of the baby boom generation having turned 65 in 2011. Consequently, growth of the prime working age group (20-64) and youth (0-19) will lag that of the total population. This poses a challenge for workforce development as employment growth may outpace labor force growth. Communities that experience worker shortages may need to consider investments in amenities and infrastructure to attract new residents.

Table 4.3 Commuting Patterns

Year	Region 4 Inflow	Region 4 Outflow
	Number	Number
2005	87,521	60,560
2006	81,542	70,479
2007	98,535	68,206
2008	100,258	73,520
2009	98,672	72,248
2010	98,733	72,891
2011	101,109	72,998

Region 4 Counties	Inflow, 2011		Outflow, 2011	
	Number	Percent	Number	Percent
Blount	3,702	1.7	18,869	10.3
Chilton	3,642	1.7	10,484	5.7
Jefferson	140,758	66.5	59,256	32.3
St. Clair	9,253	4.4	26,074	14.2
Shelby	46,544	22.0	55,303	30.1
Walker	7,756	3.7	13,558	7.4

	Percent of workers							
Average commute time (one-way)	**2005/6**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Less than 20 minutes	49.2	50.0	44.9	49.3	47.2	43.8	42.2	40.5
20 to 40 minutes	26.8	30.5	35.5	32.7	32.3	37.0	33.1	32.7
40 minutes to an hour	18.1	12.7	12.4	12.5	14.4	12.2	11.9	13.6
More than an hour	2.8	2.8	3.0	2.3	3.2	3.7	3.8	2.8
Average commute distance (one-way)	**2005/6**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Less than 10 miles	41.3	41.9	38.5	44.3	39.2	38.8	35.1	32.6
10 to 25 miles	28.7	34.6	38.1	31.4	33.7	34.5	35.3	41.0
25 to 45 miles	16.5	14.2	17	16.4	19.2	18.0	18.5	16.6
More than 45 miles	7.9	7.9	5.7	5.7	5.8	7.1	8.6	8.6

Note: Rounding errors may be present.

Source: U.S. Census Bureau; Alabama Department of Labor; and Center for Business and Economic Research, The University of Alabama.

Table 4.4 Region 4 Population

	1990 Census	2000 Census	2010 Census	2014 Estimate	Change 2000-2010	% change 2000-2010	Change 2010-2014	% change 2010-2014
Blount	39,248	51,024	57,322	57,719	6,298	12.3	397	0.7
Chilton	32,458	39,593	43,643	43,931	4,050	10.2	288	0.7
Jefferson	651,525	662,047	658,466	660,793	-3,581	-0.5	2,327	0.4
St. Clair	50,009	64,742	83,593	86,697	18,851	29.1	3,104	3.7
Shelby	99,358	143,293	195,085	206,655	51,792	36.1	11,570	5.9
Walker	67,670	70,713	67,023	65,471	-3,690	-5.2	-1,552	-2.3
Region 4	940,268	1,031,412	1,105,132	1,121,266	73,720	7.1	16,134	1.5
Alabama	4,040,587	4,447,100	4,779,736	4,849,377	332,636	7.5	69,641	1.5
United States	248,709,873	281,421,906	308,745,538	318,857,056	27,323,632	9.7	10,111,518	3.3

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

Table 4.5 Population by Age Group and Projections

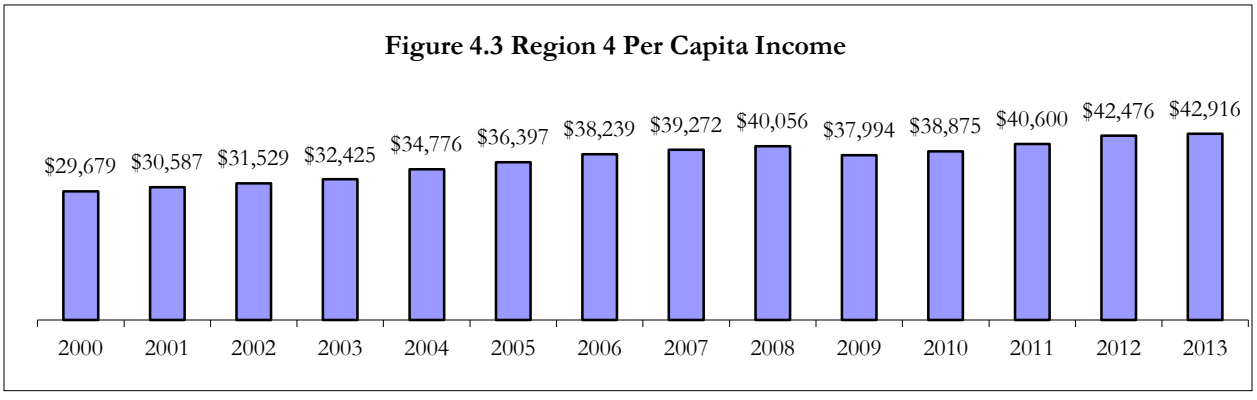
Age Group	2000	2010	2012	2022	2030
0-19	285,101	293,498	291,601	303,742	308,267
20-24	67,379	71,049	71,426	73,589	75,771
25-29	73,522	76,949	76,055	74,856	77,286
30-34	73,176	75,066	76,853	76,418	78,555
35-39	80,891	74,520	71,219	78,806	78,233
40-44	83,261	73,249	75,099	77,787	76,799
45-49	77,310	80,239	74,834	74,958	81,189
50-54	66,977	81,277	80,746	72,999	75,896
55-59	50,494	73,963	77,019	74,991	73,518
60-64	41,151	62,089	66,600	76,054	69,745
65+	132,150	143,233	152,601	204,533	246,841
20-64 Total	614,161	668,401	669,851	680,458	686,992
Total Population	1,031,412	1,105,132	1,114,053	1,188,733	1,242,100
Change from 2012					
0-19				4.2%	5.7%
20-64				1.6%	2.6%
Total Population				6.7%	11.5%

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

Per Capita Income

Per capita income (PCI) in Region 4 was $42,916 in 2013 (Figure 4.3), up 44.6 percent from 2000, and $6,435 (or 17.6 percent) more than the state average of $36,481. Shelby County had the highest PCI at $46,291, followed by Jefferson at $45,961. Blount County's PCI was the lowest at $29,222.

Figure 4.3 Region 4 Per Capita Income



Source: U.S. Bureau of Economic Analysis and Center for Business and Economic Research, The University of Alabama.

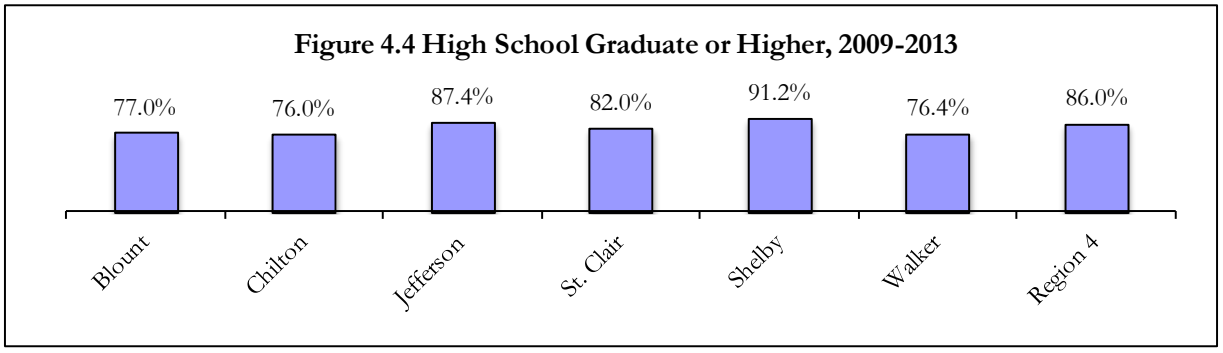
Educational Attainment

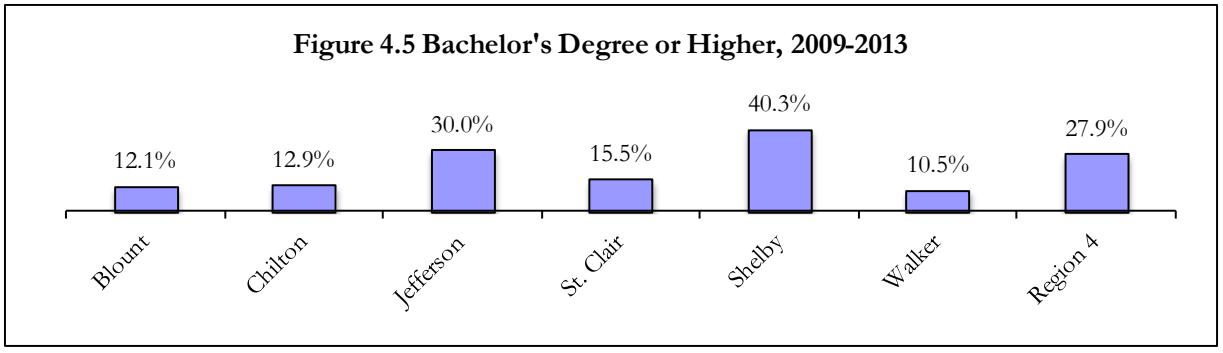
Educational attainment of Region 4 residents who were 25 years old and over in 2009 to 2013 is shown in Table 4.6 and Figures 4.4 and 4.5. Eight-six percent of the residents graduated from high school and about 28 percent held a bachelor's or higher degree. Shelby and Jefferson counties had higher educational attainment than both the region and the state. Educational attainment is important as skills rise with education and high-wage jobs demand more skill sets.

Table 4.6 Educational Attainment of Population 25 Years and Over, 2009-2013

	Blount	Chilton	Jefferson	St. Clair	Shelby	Walker	Region 4
Total	38,846	29,302	441,488	57,946	132,782	46,142	746,506
No schooling completed	587	531	3,622	655	739	536	6,670
Nursery to 4th grade	243	334	1,326	259	386	191	2,739
5th and 6th grade	719	309	3,783	631	1,325	753	7,520
7th and 8th grade	1,461	1,369	7,052	1,559	1,532	1,897	14,870
9th grade	1,345	942	7,015	2,002	2,114	2,175	15,593
10th grade	2,198	1,375	10,999	2,189	1,872	2,363	20,996
11th grade	1,511	1,333	14,557	2,261	2,374	2,100	24,136
12th grade, no diploma	873	854	7,220	897	1,299	879	12,022
High school graduate/equivalent	13,463	11,751	117,235	20,351	28,372	16,295	207,467
Some college, less than 1 year	2,814	1,390	22,913	4,390	7,299	3,592	42,398
Some college, 1+ years, no degree	5,539	3,337	80,707	9,460	22,258	6,912	128,213
Associate degree	3,396	1,991	32,547	4,321	9,754	3,612	55,621
Bachelor's degree	3,107	2,399	81,219	6,038	36,365	3,088	132,216
Master's degree	1,223	1,124	32,777	2,104	12,169	1,184	50,581
Professional school degree	253	161	12,244	434	3,106	443	16,641
Doctorate degree	114	102	6,272	395	1,818	122	8,823

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.





Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

Underemployment and Available Labor

Labor force data are often limited to information on the employed and the unemployed that is available from government sources. However, this information is not complete from the perspective of employers. New or expanding employers are also interested in underemployment because current workers are potential employees. In fact, experience requirements in job ads are evidence that many prospective employers look beyond the unemployed for workers.

Workers in occupations that underutilize their experience, training, and skills are underemployed. These workers might look for other work because their current wages are below what they believe they can earn or because they wish to not be underemployed. Underemployment occurs for various reasons including (i) productivity growth, (ii) spousal employment and income, and (iii) family constraints or personal preferences. Underemployment is unique to areas because of the various contributing factors combined with each area's economic, social, and geographic characteristics.

The existence of underemployment identifies economic potential that is not being realized. It is extremely difficult to measure this economic potential because of uncertainties regarding additional income that the underemployed can bring to an area. It is clear, however, that underemployment provides opportunities for selective job creation and economic growth. A business that needs skills prevalent among the underemployed could locate in places that have such workers regardless of those areas' unemployment rates. A low unemployment rate, which may falsely suggest limited labor availability, is therefore not a hindrance to the business.

The underemployed present a significant labor pool because they tend to respond to job opportunities that they believe are better for reasons that include (i) higher income, (ii) more benefits, (iii) superior terms and conditions of employment, and (iv) a better match with skills, training, and experience. The underemployed also create opportunities for entry level workers as they leave lower-paying jobs for better-paying ones. Even if their previously held positions are lost or not filled (perhaps due to low unemployment or adverse economic conditions), there is economic growth in gaining higher-paying jobs. Such income growth boosts consumption, savings, and tax collections. Quantifying the size of the underemployed is a necessary first step in considering this group for economic development, workforce training, planning, and other purposes. It is important to note that the underemployed can take on more responsibilities and earn more income, but they cannot be counted on to address possible future worker shortages as they are already employed.

Region 4 had an underemployment rate of 25.1 percent in 2014. Applying this rate to April 2015 labor force data means that 126,210 employed residents were underemployed (Table 4.7). Adding the unemployed gives a total available labor pool of 151,591 for the region. This is six times the number of unemployed and is a more realistic measure of the available labor pool in the region. Prospective employers must be able to offer the underemployed higher wages, better benefits or terms of employment, or some other incentives to induce them to change jobs. Underemployment rates ranged from 20.0 percent for Blount County to 30.3 percent for Shelby. Chilton County had the smallest available labor pool and Jefferson had the largest. The underemployed workers are willing to commute farther and longer for a better job. For the one-way commute, 40.9 percent are prepared to travel for 20 or more minutes longer and 29.6 percent will go 20 or more extra miles.

Table 4.7 Underemployed and Available Labor by Workforce Development Region

	Region 4	Blount	Chilton	Jefferson	St. Clair	Shelby	Walker
Labor Force	527,608	24,644	19,139	312,665	38,510	106,715	25,935
Employed	502,227	23,457	18,199	296,729	36,715	102,834	24,293
Underemployment rate	25.1%	20.0%	22.7%	24.0%	26.5%	30.3%	27.3%
Underemployed workers	126,210	4,691	4,137	71,215	9,740	31,159	6,625
Unemployed	25,381	1,187	940	15,936	1,795	3,881	1,642
Available labor pool	**151,591**	**5,878**	**5,077**	**87,151**	**11,535**	**35,040**	**8,267**

Note: Rounding errors may be present. Based on April 2015 labor force data and 2014 underemployment rates.
Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Labor.

Underemployment rates for counties, Workforce Development Regions (WDRs), and the state were determined from an extensive survey on the state's workforce. In 2014 a total of 1,011 complete responses were obtained from Region 4. About 39 percent (398 respondents) were employed, of whom 100 stated that they were underemployed. A lack of job opportunities in their area, low wages at available jobs, other family or personal obligations, living too far from jobs, other undisclosed reasons, child care responsibilities, and spouse or partner having a really good job are the primary reasons given for being underemployed. Ongoing economic development efforts can help address some of these factors. Nonworkers cite retirement and disability or other health concerns as the main reasons for their status, but a significant number also cited social security limitations, other undisclosed reasons, and a lack of jobs in their area. Such workers may join the labor force if their problems can be addressed. Indeed a recent study found that the flow of labor force nonparticipants to employment status was 60 percent more than that of unemployed workers who gain employment.[3] This implies that Region 4's available labor pool could be larger than estimated in this report.

A comparison of underemployed workers to the overall workforce in Region 4 shows that:

- Fewer work full-time and more of the part-timers would like to work full-time.
- More hold multiple jobs.
- They have shorter commute times and distances.
- More work in business and financial operations; community and social services; education, training, and library; healthcare practitioners and technicians; healthcare support; building and grounds cleaning and maintenance; sales and related; construction and extraction; and transportation and material moving occupations.
- More are in agriculture, forestry, fishing, and hunting; manufacturing; retail trade; information; finance and insurance; professional, scientific, and technical services; educational services; and other services industries.
- They have shorter job tenure and earn less.
- Fewer believe their jobs fit well with their education and training, skills, and experience.
- More believe they are qualified for a better job.
- More are willing to leave their current jobs for higher income.
- More are willing to commute longer and farther for a better job.

[3] Canon, M.E., Kudlyak, M., and Reed, M. (2014). Not Everyone Who Joins the Ranks of the Employed was "Unemployed", *The Regional Economist*, January.

- Fewer are satisfied with their current jobs.
- More are willing to train for a better job except if they have to pay the full cost.
- More have sought better jobs in the preceding quarter.
- Their median age is a year above that of all employed workers but fewer are married.
- Fewer are male and more are women.
- They are more educated; they are more likely to have an associate and bachelor's degree.
- More are Hispanic and African Americans or other nonwhite ethnic groups.

Table 4.8 shows the detailed survey results on job satisfaction and willingness to train. Responses for overall job satisfaction as well as various aspects of the job were obtained. In general, most of the region's workers (76.4 percent) are satisfied or completely satisfied with their jobs. Workers are most satisfied with the work they do and least satisfied with the earnings they receive. Clearly, fewer underemployed workers are satisfied with their jobs (62.0 percent). The underemployed are most satisfied with their work shift and the work they do and least satisfied with their earnings.

Workers are generally willing to train for a new or better job, with the underemployed being much more willing (72.7 percent vs. 59.9 percent). However, the willingness to train is strongly influenced by who pays for the cost of training. Workers typically do not wish to pay for the training and so their willingness is highest when the cost is fully borne by government and lowest when the trainee must pay the full costs. Except when they have to pay the full costs of training, the underemployed are more willing to train for a new or better job. The results strongly show that workers want the government to bear at least a part of the training cost. This expectation may result from worker awareness of government workforce programs that provide such assistance.

Table 4.8 Job Satisfaction and Willingness to Train (Percent)

Job Satisfaction					
	Completely Dissatisfied	Dissatisfied	Neutral	Satisfied	Completely Satisfied
Employed					
Overall	1.8	4.8	17.1	31.4	45.0
Earnings	7.8	8.5	20.6	30.4	31.7
Retention	2.5	3.8	14.6	15.6	62.7
Work	0.5	1.3	8.6	28.7	61.0
Hours	4.0	4.8	11.1	22.7	57.2
Shift	2.8	2.8	8.3	13.4	72.3
Conditions	3.0	3.3	14.1	23.9	55.7
Commuting Distance	3.3	6.6	12.3	16.6	60.7
Underemployed					
Overall	5.0	10.0	23.0	35.0	27.0
Earnings	20.0	16.0	20.0	27.0	17.0
Retention	7.0	5.0	10.0	10.0	53.0
Work	2.0	4.0	12.0	33.0	49.0
Hours	6.0	9.0	17.0	23.0	45.0
Shift	7.0	4.0	6.0	16.0	66.0
Conditions	9.0	5.0	18.0	24.0	44.0
Commuting Distance	3.0	9.0	13.0	19.0	56.0

Willingness to Train					
	Completely Unwilling	Unwilling	Neutral	Willing	Completely Willing
Employed					
For a new or better job	21.7	4.0	12.5	13.8	46.1
If paid by trainee	43.7	20.6	19.8	5.5	5.5
If paid by trainee and government	17.7	12.2	34.5	20.6	13.0
If paid by government	5.9	4.6	11.3	13.9	62.6
Underemployed					
For a new or better job	13.6	1.1	11.4	12.5	60.2
If paid by trainee	48.7	22.4	18.4	6.6	1.3
If paid by trainee and government	19.7	9.2	32.9	25.0	10.5
If paid by government	4.0	2.6	10.5	13.2	69.7

Note: Rounding errors may be present.

Source: Center for Business and Economic Research, The University of Alabama.

Workforce Demand

Industry Mix

The health care and social assistance industry was the leading employer with 70,831 jobs in the second quarter of 2014 (Table 4.9). Rounding out the top five industries by employment are retail trade; accommodation and food services; educational services; and manufacturing. These five industries provided 253,096 jobs, 51.7 percent of the regional total. The average monthly wage across all industries in the region was $3,556; only two leading employers—manufacturing and health care and social assistance—paid more than this average. New hire monthly earnings averaged $2,449 about 69 percent of the region's average monthly wage. The highest average monthly wages were for utilities at $6,730; mining $5,977; finance and insurance at $5,496; professional, scientific, and technical services $5,019; and information at $5,009. Accommodation and food services paid the least at $1,314. The highest average monthly new hire wages were for mining at $5,467 followed by utilities, $4,796; professional, scientific, and technical services $4,302, and finance and insurance at $4,077. Accommodation and food services paid newly hired workers the least, $1,115.

Table 4.9 Industry Mix (Second Quarter 2014)

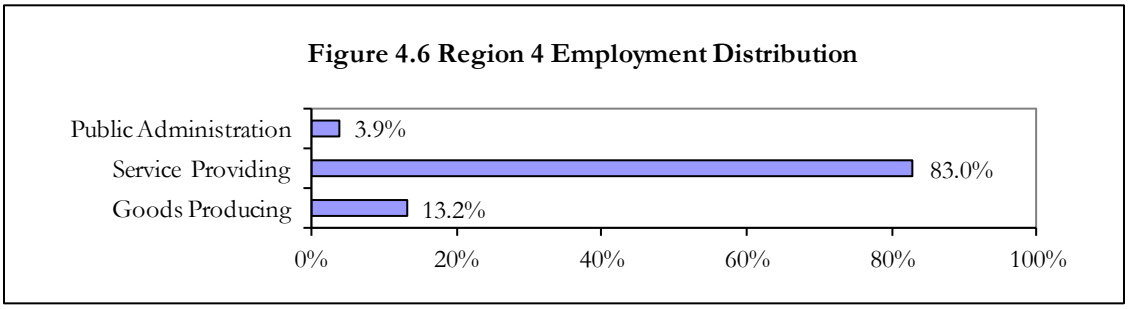
Industry by 2-digit NAICS Code	Total Employment	Share	Rank	Average Monthly Wage	Average Monthly New Hire Earnings
11 Agriculture, Forestry, Fishing and Hunting	775	0.16%	20	$2,907	$2,406
21 Mining	2,393	0.49%	19	$5,977	$5,467
22 Utilities	9,086	1.86%	15	$6,730	$4,796
23 Construction	23,069	4.71%	10	$4,071	$3,481
31-33 Manufacturing	38,116	7.79%	5	$4,206	$2,889
42 Wholesale Trade	28,868	5.90%	8	$4,727	$3,709
44-45 Retail Trade	62,506	12.78%	2	$2,180	$1,630
48-49 Transportation and Warehousing	14,277	2.92%	13	$3,410	$2,689
51 Information	9,380	1.92%	14	$5,009	$3,596
52 Finance and Insurance	37,213	7.61%	6	$5,496	$4,077
53 Real Estate and Rental and Leasing	6,954	1.42%	17	$3,785	$2,995
54 Professional, Scientific, and Technical Services	26,913	5.50%	9	$5,019	$4,302
55 Management of Companies and Enterprises	9,069	1.85%	16	$4,562	$3,007
56 Administrative and Support and Waste Management and Remediation Services	28,958	5.92%	7	$2,146	$1,938
61 Educational Services	39,116	7.99%	4	$3,447	$2,029
62 Health Care and Social Assistance	70,831	14.48%	1	$3,618	$2,711
71 Arts, Entertainment, and Recreation	5,846	1.19%	18	$1,595	$1,227
72 Accommodation and Food Services	42,527	8.69%	3	$1,314	$1,115
81 Other Services (Except Public Administration)	14,474	2.96%	12	$3,137	$2,216
92 Public Administration	18,908	3.86%	11	$3,623	$2,233
ALL INDUSTRIES	**489,280**	**100.00%**		**$3,556**	**$2,449**

Source: Alabama Department of Labor and U.S. Census Bureau.

By broad industry classification, service providing industries generated 83.0 percent of jobs in second quarter 2014 (Figure 4.6). Goods producing industries were next with 13.2 percent and

public administration accounted for 3.9 percent. The distribution is for all nonagricultural jobs in the region, but there is significant variation by county.

Figure 4.6 Region 4 Employment Distribution



Source: Alabama Department of Labor and U.S. Census Bureau.

Job Creation and Net Job Flows

On average 22,173 jobs were created per quarter from second quarter 2001 to second quarter 2014 (Figure 4.7) while quarterly net job flows averaged 1,870 (Figure 4.8). Since the beginning of the last recession, job creation and net flows have been fluctuating significantly. Both job creation and net job flows were down in the third quarter of 2013 but were up significantly in the following quarters. Quarterly net job flows fluctuate considerably and have ranged from a loss of 6,788 to a gain of 10,426. Job creation refers to the number of new jobs that are added either by new area businesses or through the expansion of existing firms. Net job flows reflect the difference between current and previous employment at all businesses.

Figure 4.7 Job Creation in Region 4

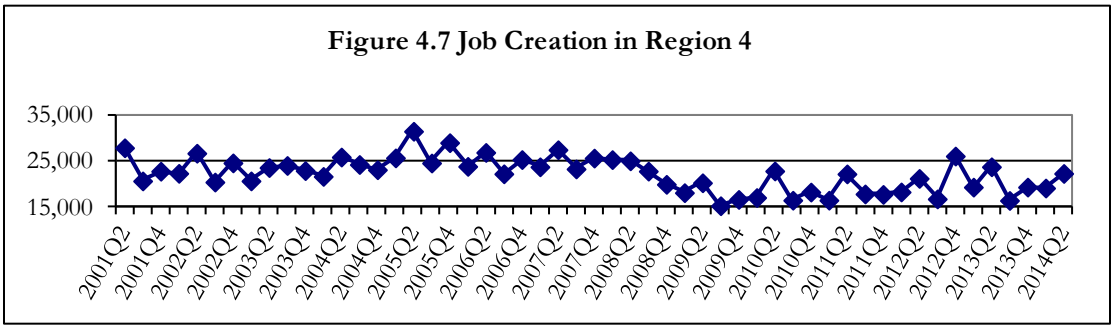
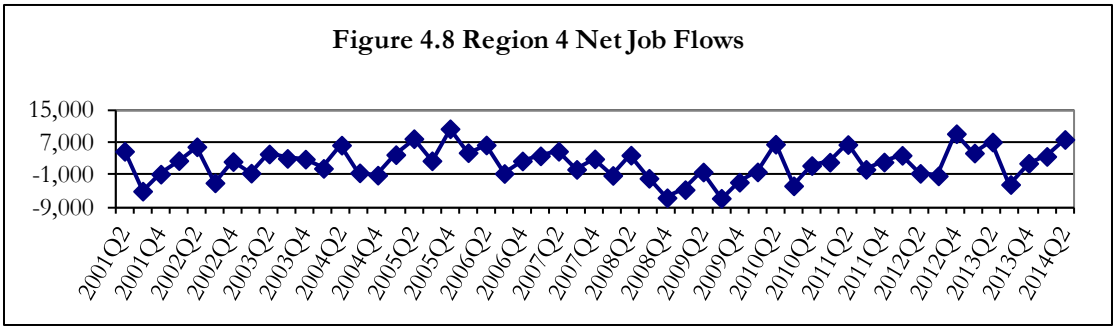


Figure 4.8 Region 4 Net Job Flows



Source: Alabama Department of Labor and U.S. Census Bureau.

High-Demand, Fast-Growing, High-Earning, and Sharp-Declining Occupations

Workforce Development Region 4 has 743 single occupations. Table 4.10 shows the 40 occupations that are expected to be in high-demand, ranked by projected average annual job openings over the 2012 to 2022 period. Many of these occupations are in the largest employment sector identified earlier (Table 4.9), health care and social assistance. Thus, this sector will continue to dominate employment in the region.

The top five high-demand occupations are Registered Nurses; Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products; Personal Care Aides; Home Health Aides; and Licensed Practical and Licensed Vocational Nurses. Nine of the high-demand occupations are also fast-growing. This means that these nine occupations have a minimum annual growth rate of 2.78 percent, much faster than the regional and state occupational growth rates of 1.09 percent and 0.99 percent, respectively.

The 20 fastest growing occupations ranked by projected growth of employment are listed in Table 4.11. Most of these occupations are related to health care and social assistance industry. The top five fast-growing occupations are Special Education Teachers, Preschool; Biological Science Teachers, Postsecondary; Personal Care Aides; Home Health Aides; and Community Health Workers.

Table 4.12 shows the 50 selected highest earning occupations in the region. These occupations are mainly in management, health, and engineering fields. Eight of the top 10 listed are health occupations. Any discussion of earnings must consider that wages vary with experience. Occupations with the highest entry wages may not necessarily have the highest average or experienced wages.

The selected high-earning occupations are generally not fast-growing or in high-demand. Indeed, only one occupation—Personal Financial Advisors—belongs in all the three categories. Seven occupations are both high-earning and in high-demand (Table 4.10).

Of the region's 743 occupations, 81 are expected to decline over the 2012 to 2022 period. Employment in the 20 sharpest-declining occupations will fall by at least 10 percent, with each losing a minimum of 20 jobs over the period (Table 4.13). No efforts should be made to sustain these occupations because they are declining as a result of structural changes in the economy of the region.

Table 4.10 Selected High-Demand Occupations (Base Year 2012 and Projected Year 2022)

Occupation	Average Annual Job Openings		
	Total	Due to Growth	Due to Separations
Registered Nurses	605	305	305
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	345	150	195
Personal Care Aides*	185	160	20
Home Health Aides*	160	120	45
Licensed Practical and Licensed Vocational Nurses	155	80	75
Electricians	125	65	60
Carpenters	115	80	35
Industrial Machinery Mechanics	110	50	60
First-Line Supervisors of Construction Trades and Extraction Workers	105	70	35
Medical Assistants	90	55	35
Health Specialties Teachers, Postsecondary	85	60	30
Computer Systems Analysts	85	50	35
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	75	35	40
Computer User Support Specialists	75	45	30
Medical Secretaries*	65	50	15
Management Analysts	65	40	25
Medical and Clinical Laboratory Technicians	55	30	25
Cost Estimators	55	25	30
Physical Therapists*	50	30	20
Construction Managers	50	30	25
Dental Hygienists	45	25	20
Physical Therapist Assistants*	40	25	10
Market Research Analysts and Marketing Specialists	40	25	15
Healthcare Social Workers	35	20	15
Software Developers, Applications	35	25	15
Civil Engineers	35	15	20
Nurse Practitioners	30	20	10
Medical and Health Services Managers	30	15	15
Computer and Information Systems Managers	30	20	15
Personal Financial Advisors*	25	15	5
Information Security Analysts	25	15	10
Diagnostic Medical Sonographers*	20	15	5
Software Developers, Systems Software	20	15	5
Nursing Instructors and Teachers, Postsecondary	15	10	5
Medical Equipment Repairers	15	10	5
Occupational Therapists	15	10	5
Cardiovascular Technologists and Technicians	15	10	5
Nurse Anesthetists	15	10	5
Physician Assistants*	10	5	5
Logisticians*	10	5	0

Note: Occupations are growth- and wages-weighted and data are rounded to the nearest 5. Occupations in bold are also high-earning.

* - Qualify as both high-demand and fast-growing occupations.

Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

Table 4.11 Selected Fast-Growing Occupations (Base Year 2012 and Projected Year 2022)

Occupation	Employment		Percent Change	Annual Growth (Percent)	Average Annual Job Openings
	2012	2022			
Special Education Teachers, Preschool	NA	NA	45.45	5.24	5
Biological Science Teachers, Postsecondary	1,020	1,610	57.23	4.67	75
Personal Care Aides*	2,950	4,560	54.78	4.45	185
Home Health Aides*	2,320	3,490	50.76	4.17	160
Community Health Workers	120	180	44.35	4.14	10
Diagnostic Medical Sonographers*	300	450	47.37	4.14	20
Physical Therapist Assistants*	520	780	50.97	4.14	40
Skincare Specialists	90	130	45.05	3.75	5
Insulation Workers, Mechanical	180	260	44.75	3.75	10
Helpers—Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	120	170	42.5	3.54	5
Physician Assistants*	170	240	41.32	3.51	10
Occupational Therapy Assistants	80	110	48.68	3.24	5
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	80	110	43.42	3.24	5
Physical Therapists*	810	1,110	36.29	3.20	50
Medical Secretaries*	1,320	1,800	36.18	3.15	65
Brickmasons and Blockmasons	310	420	35.16	3.08	15
Helpers--Electricians	340	460	37.01	3.07	15
Personal Financial Advisors*	**460**	**620**	**37.14**	**3.03**	**25**
Audiologists	60	80	41.82	2.92	5
Logisticians*	190	250	35.83	2.78	10

Note: Employment data are rounded to the nearest 10 and job openings are rounded to the nearest 5. Occupations in bold are also high-earning.

* - Qualify as both high-demand and fast-growing occupations. NA - Not available.

Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

Table 4.12 Selected High-Earning Occupations (Base Year 2012 and Projected Year 2022)

Occupation	Employment		Annual Growth (Percent)	Average Annual Job Openings	Mean Annual Salary ($)
	2012	2022			
Surgeons	140	170	1.96	5	248,080
Psychiatrists	70	90	2.54	5	245,657
Physicians and Surgeons, All Other	1,250	1,520	1.97	60	232,377
Internists, General	90	100	1.06	5	219,660
Dentists, General	410	470	1.38	15	211,684
Chief Executives	480	500	0.41	10	209,288
Pediatricians, General	170	200	1.64	5	173,589
Orthodontists	30	30	0.00	0	162,694
Family and General Practitioners	200	220	0.96	5	160,579
Natural Sciences Managers	30	30	0.00	0	159,756
Nurse Anesthetists*	310	390	2.32	15	155,555
Administrative Law Judges, Adjudicators, and Hearing Officers	NA	NA	0.00	0	143,642
Petroleum Engineers	NA	NA	2.26	0	133,220
General and Operations Managers	8,700	9,790	1.19	270	127,998
Financial Managers	1,660	1,790	0.76	45	124,682
Computer and Information Systems Managers*	940	1,120	1.77	30	121,196
Optometrists	NA	NA	2.26	5	121,031
Architectural and Engineering Managers	710	750	0.55	20	120,296
Marketing Managers	240	270	1.18	10	118,695
Sales Managers	1,080	1,180	0.89	35	118,672
Lawyers	2,590	2,910	1.17	75	115,595
Purchasing Managers	220	240	0.87	5	115,281
Pharmacists	1,560	1,800	1.44	60	108,227
Health Specialties Teachers, Postsecondary*	1,840	2,440	2.86	85	105,524
Broadcast News Analysts	NA	NA	0.00	5	105,365
Human Resources Managers	320	370	1.46	15	103,190
Education Administrators, Postsecondary	470	540	1.40	20	102,791
Financial Analysts	440	500	1.29	15	101,836
Medical and Health Services Managers*	710	850	1.82	30	100,315
Electronics Engineers, Except Computer	360	380	0.54	10	100,101
Administrative Services Managers	330	360	0.87	10	99,347
Construction Managers*	1,470	1,760	1.82	50	99,040
Personal Financial Advisors*	**460**	**620**	**3.03**	**25**	**97,933**
Managers, All Other	1,740	1,890	0.83	50	97,285
Securities, Commodities, and Financial Services Sales Agents	940	1,050	1.11	35	95,046
Engineers, All Other	390	440	1.21	10	94,470
Industrial Production Managers	430	450	0.46	10	94,263
Microbiologists	NA	NA	0.00	0	94,198
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	380	420	1.01	10	94,133
Public Relations and Fundraising Managers	170	190	1.12	5	93,961
Materials Engineers	40	40	0.00	0	93,339
Computer Network Architects	380	410	0.76	10	92,904
Captains, Mates, and Pilots of Water Vessels	30	30	0.00	0	92,032
Emergency Management Directors	NA	NA	0.00	0	91,911
Management Analysts*	1,570	2,000	2.45	65	91,361
Transportation, Storage, and Distribution Managers	290	320	0.99	10	91,183
Computer Hardware Engineers	70	90	2.54	5	91,146
Commercial Pilots	110	130	1.68	5	90,070
Atmospheric and Space Scientists	20	20	0.00	0	89,862
Geoscientists, Except Hydrologists and Geographers	50	70	3.42	5	89,114

Note: Employment data are rounded to the nearest 10; openings to the nearest 5. The salary data provided are based on the May 2014 release of the Occupational Employment Statistics (OES) combined employment and wage file. Estimates for specific occupations may include imputed data. Occupations in bold are also fast-growing. NA – Not available.

* - Qualify as both high-earning and high-demand occupations.

Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Labor.

Table 4.13 Selected Sharp-Declining Occupations (Base Year 2012 and Projected Year 2022)

Occupation	Employment		Net Change	Percent Change
	2012	2022		
Farmers, Ranchers, and Other Agricultural Managers	6,700	5,340	-1,360	-20
Meat, Poultry, and Fish Cutters and Trimmers	1,210	890	-1,320	-27
Postal Service Mail Carriers	450	280	-170	-37
Sewing Machine Operators	560	400	-160	-30
Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	530	400	-130	-24
Data Entry Keyers	NA	NA	-80	-26
Postal Service Mail Sorters, Processors, and Processing Machine Operators	250	170	-80	-32
Postal Service Clerks	530	460	-70	-12
Paper Goods Machine Setters, Operators, and Tenders	380	310	-70	-20
Textile Knitting and Weaving Machine Setters, Operators, and Tenders	490	430	-60	-12
Switchboard Operators, Including Answering Service	490	440	-50	-12
Textile Bleaching and Dyeing Machine Operators and Tenders	350	310	-40	-12
Fallers	190	160	-30	-12
Computer Operators	290	260	-30	-12
Slaughterers and Meat Packers	160	130	-30	-16
Word Processors and Typists	170	140	-30	-16
Office Machine Operators, Except Computer	NA	NA	-30	-41
Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	NA	NA	-20	-10
Meter Readers, Utilities	120	100	-20	-13
Roof Bolters, Mining	160	140	-20	-13

Note: Employment data are rounded to the nearest 10. NA - Not available due to disclosure restrictions.

Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

Skills and Skills Gap Analyses

Jobs require skill sets and it is necessary that jobholders have the relevant skills. Table 4.14 shows skill types and definitions as provided by O*NET Online, which offers skill sets for all occupations ranked by the degree of importance. High-earning occupations typically require skills that are obtained in the pursuit of the high educational attainment levels that such jobs require. Lower earning occupations require more basic skill sets. Some occupations have no minimum skill set requirements (e.g. dishwashers and maids).

Table 4.15 shows the percentage of selected occupations in the region that list a particular skill as primary. We define primary skills as the 10 most important skills in the required skill set for an occupation. It is important to note that a particular skill may be more important and more extensively used in one occupation than another. Table 4.15 does not address such cross-occupational skill importance comparisons. In general, basic skills are most frequently listed as primary, which means that they are important for practically all jobs.

Table 4.14 Skill Types and Definitions

Basic Skills: Developed capacities that facilitate learning or the more rapid acquisition of knowledge.

Active Learning — Understanding the implications of new information for both current and future problem-solving and decision-making.

Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Learning Strategies — Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.

Mathematics — Using mathematics to solve problems.

Monitoring — Monitoring / Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.

Science — Using scientific rules and methods to solve problems.

Speaking — Talking to others to convey information effectively.

Writing — Communicating effectively in writing as appropriate for the needs of the audience.

Complex Problem Solving Skills: Developed capacities used to solve novel, ill-defined problems in complex, real-world settings.

Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Resource Management Skills: Developed capacities used to allocate resources efficiently.

Management of Financial Resources — Determining how money will be spent to get the work done and accounting for these expenditures.

Management of Material Resources — Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.

Management of Personnel Resources — Motivating, developing, and directing people as they work, identifying the best people for the job.

Time Management — Managing one's own time and the time of others.

Social Skills: Developed capacities used to work with people to achieve goals.

Coordination — Adjusting actions in relation to others' actions.

Instructing — Teaching others how to do something.

Negotiation — Bringing others together and trying to reconcile differences.

Persuasion — Persuading others to change their minds or behavior.

Service Orientation — Actively looking for ways to help people.

Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do.

Systems Skills: Developed capacities used to understand, monitor, and improve socio-technical systems.

Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Systems Analysis — Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Systems Evaluation — Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

Technical Skills: Developed capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems.

Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.

Equipment Selection — Determining the kind of tools and equipment needed to do a job.

Installation — Installing equipment, machines, wiring, or programs to meet specifications.

Operation and Control — Controlling operations of equipment or systems.

Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.

Operations Analysis — Analyzing needs and product requirements to create a design.

Programming — Writing computer programs for various purposes.

Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

Repairing — Repairing machines or systems using the needed tools.

Technology Design — Generating or adapting equipment and technology to serve user needs.

Troubleshooting — Determining causes of operating errors and deciding what to do about it.

Source: O*NET Online (http://online.onetcenter.org/skills/).

Table 4.15 Percentage of Selected Occupations for Which Skill Is Primary

	Selected High-Demand Occupations	Selected Fast-Growing Occupations	Selected High-Earning Occupations
Basic Skills			
Active Learning	43	40	64
Active Listening	93	80	82
Critical Thinking	95	90	80
Learning Strategies	5	5	4
Mathematics	10	5	12
Monitoring	65	70	52
Reading Comprehension	83	70	72
Science	10	10	26
Speaking	88	80	80
Writing	45	35	60
Complex Problem Solving Skills			
Complex Problem Solving	58	40	62
Resource Management Skills			
Management of Financial Resources	3	0	2
Management of Material Resources	0	0	0
Management of Personnel Resources	8	0	16
Time Management	33	50	12
Social Skills			
Coordination	45	55	34
Instructing	20	20	10
Negotiation	3	0	14
Persuasion	10	10	16
Service Orientation	43	55	20
Social Perceptiveness	58	65	46
Systems Skills			
Judgment and Decision Making	63	45	76
Systems Analysis	13	5	6
Systems Evaluation	5	0	4
Technical Skills			
Equipment Maintenance	8	0	0
Equipment Selection	3	0	0
Installation	3	0	0
Operation and Control	3	5	2
Operation Monitoring	10	5	2
Operations Analysis	5	0	6
Programming	5	5	0
Quality Control Analysis	8	10	0
Repairing	8	5	0
Technology Design	0	0	0
Troubleshooting	8	5	0

Note: Rounding errors may be present.

Source: O*NET Online and Center for Business and Economic Research, The University of Alabama.

High-earning occupations require more active learning, math, science, writing, complex problem solving, management of personnel resources, persuasion, negotiation, judgment and decision making, and operations analysis skills than both high-demand and fast-growing jobs. These are skills that require long training periods and postsecondary education. However, high-earning jobs require less social and technical skills. High-demand occupations require more basic skills, systems, complex problem solving, and technical skills than fast-growing occupations. Fast-growing jobs require more social skills than high-demand jobs.

Table 4.16 shows skill gap indexes for all 35 skills in Table 4.14 based on previous occupation projections (2008 to 2018). Skills gap indexes range from zero to 100 and are standardized measures of the gap between current supply and projected demand. The index does not provide any information about current or base year skill supply. Its focus is on the projection period and identifies critical skill needs. The index essentially ranks expected training needs. The higher the index the more critical is the skill over the specified projection period.

For policy and planning purposes, skill gap indexes have to be considered together with replacement indexes, which are the expected shares of job openings due to replacement. Replacement is necessary because of turnover and people leaving the labor force. The smaller the replacement index, the larger the share of job openings due to growth, which in turn implies a need to increase the pace of skill training. Skill gap indexes point to the need to ramp up the scale of skill training while replacement indexes address the pace of training.

By skill type, the skill gap indexes show that basic skills are most critical followed by social, complex problem solving, resource management, system, and technical skills. Although the skills gap indexes are for a previous projection period, they are applicable to the current projections. The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs indicates a strong need for training in these skills. The pace of training needs to increase for systems, technical, and complex problem solving skills; the scale of training should be raised for basic and social skills.

Education and Training Issues

Educational attainment in Region 4 is above that of the state as a whole. Eighty-six percent of residents age 25 and over had graduated from high school in 2009 to 2013, compared to 83 percent for Alabama; 28 percent have a bachelor's or higher degree versus 23 percent for the state. However, educational attainment varies greatly by county. Skill and education requirements for jobs keep rising. This highlights a strong need to raise educational attainment in the region, especially for Blount, Chilton, Walker, and St. Clair counties.

Table 4.17 shows the number of selected occupations in the region for which a particular education/training category is most common. In general, high-earning occupations require high educational attainment levels; only two of the 50 high-earning occupations do not require a bachelors' or higher degree. Twenty-eight (70 percent) of the 40 high-demand occupations require an associate degree at the minimum and 21 (53 percent) require a bachelor's or higher degree. Ten (50 percent) of the 20 fast-growing occupations require an associate degree at the minimum, with seven (35 percent) requiring a bachelor's or higher degree.

The 2012 to 2022 occupational projections indicate that future jobs will require postsecondary education and training at a minimum. Job ads are increasingly requiring a high school diploma or GED at a minimum. Of the region's 743 occupations, 81 are expected to decline over the period and education and training for these should slow accordingly.

Table 4.16 Skills Gap Indexes (Base Year 2008 and Projected Year 2018)

Skill	Total Openings (Projected Demand)	Replacement Index	Skills Gap Index
Reading Comprehension	9,465	66	100
Active Listening	9,425	67	97
Critical Thinking	8,680	65	94
Speaking	7,595	64	91
Active Learning	7,685	65	89
Coordination	7,375	65	86
Monitoring	6,975	65	83
Writing	6,750	66	80
Instructing	6,485	64	77
Time Management	6,365	64	74
Learning Strategies	6,130	64	71
Social Perceptiveness	5,690	64	69
Service Orientation	5,270	63	66
Persuasion	4,800	66	63
Judgment and Decision Making	4,510	66	60
Complex Problem Identification	4,165	64	57
Mathematics	3,745	66	54
Equipment Selection	2,890	66	51
Negotiation	2,630	69	49
Troubleshooting	2,090	64	46
Equipment Maintenance	1,825	64	43
Management of Personnel Resources	2,220	75	40
Installation	1,500	62	37
Repairing	1,045	65	34
Operations Analysis	1,050	65	31
Systems Evaluation	855	61	29
Management of Financial Resources	1,360	75	26
Operation and Control	1,030	66	23
Quality Control	935	66	20
Science	780	62	17
Operation Monitoring	1,200	71	14
Systems Analysis	640	59	11
Management of Material Resources	740	77	9
Technology Design	535	65	6
Programming	140	61	3

Note: The skills gap indexes are from 2008 to 2018 projection period and not 2012 to 2022.

Source: Alabama Department of Labor.

Table 4.17 Number of Selected Occupations by Education/Training Requirements

Most Common Education/Training Requirements Categories	Selected High-Demand Occupations	Selected Fast-Growing Occupations	Selected High-Earning Occupations
Doctoral Degree or First Professional Degree	2	3	13
Master's Degree	6	1	2
Bachelor's or Higher Degree Plus Work Experience	5	1	20
Bachelor's Degree	8	2	13
Associate Degree	7	3	0
Postsecondary Non-Degree Plus On-the-job Training	1	0	0
Postsecondary Non-Degree	2	1	0
Some College, no Degree Plus On-the-job Training	1	0	0
Some College, no Degree	0	0	0
High School Diploma Plus On-the-job Training	6	6	2
High School Diploma	0	0	0
Less than High School Plus On-the-job Training	2	3	0
Less than High School	0	0	0

Note: The on-the-job training refers to the typical on-the-job training needed to attain competency in the occupation in addition to the typical education needed for entry to the occupation. This could be long-term, moderate-term, or short-term on-the-job training. **Long-term** requires more than 12 months on-the-job training. **Moderate-term** requires one to 12 months of on-the-job training. **Short-term** requires up to one month of on-the-job training. These types of training are more common in occupations that require postsecondary non-degree or less educational attainment. Other types of on-the-job training requirements that may be needed but are not shown on the table are apprenticeship and internship/residency that are typical in certain professions many of which require higher educational attainment.

Source: O*NET Online; Center for Business and Economic Research, The University of Alabama; and Alabama Department of Labor.

Implications and Recommendations

From a 2012 base, worker shortfalls of 46,106 and 34,193 are expected for 2022 and 2030 respectively (Table 4.18). This is because job growth is expected to be faster than the growth of the main working age population. A focus on worker skills and the anticipated worker shortfalls must be a priority through 2030.

Table 4.18 Expected Worker Shortfall

	2012-2022	2012-2030
Total population growth (percent)	6.7	11.5
Age 20-64 population growth (percent)	1.6	2.6
Job growth (percent)	10.6	9.3
Worker shortfall (percent)	9.0	6.7
Worker shortfall (number)	46,106	34,193

Source: Center for Business and Economic Research, The University of Alabama.

Employment is critical to economic development and so strategies to address potential skill needs and worker shortfalls must be adopted and implemented. Such strategies should aim at increasing labor force participation, encouraging in-migration, and raising worker productivity and must include: (i) improvements in education and its funding; (ii) continuation and enhancement of programs to assess, retrain, and place dislocated workers; (iii) focus on hard-to-serve populations (e.g. out-of-school youth); (iv) lowering the high school dropout rate; (v) offer economic opportunities that attract new and younger residents; (vi) encouragement of older worker participation in the labor force; and (vii) facilitation of in-commuting.

Improving education is vital because a highly educated and productive workforce is a critical economic development asset. The educational and training requirements of high-demand, fast-growing, and high-earning occupations show the significance of education in developing the workforce of the future. The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs demonstrates a strong need for training in these skills. The pace of training needs to increase for technical, systems, and complex problem solving skills. The scale of training should be raised for basic and social skills. Ideally, all high school graduates should possess basic skills so that postsecondary and higher education can focus on other and more complex skills while enhancing these basic skills. Employers should be an integral part of planning for training as they can help identify future skill needs and any existing gaps. Education and training for the 20 sharp-declining occupations in Table 4.13 should slow accordingly.

Another very important reason to improve education is that more educated people are more likely to work; data on worker participation and educational attainment show that labor force participation increases with worker education. Productivity also rises with education, which yields high private and social returns. Workforce development must view all of the education and other programs (e.g. adult education, career technical training, worker retraining, career readiness, etc.) as one system. Funding to support workforce development may require tax reform at state and local levels and must provide for flexibility as workforce needs change over time and demand different priorities.

Programs to assess, retrain, and place dislocated workers—especially those affected by outsourcing and structural changes in the economy—should be continued and enhanced because they can improve the labor force participation rate. Hard-to-serve populations include persons in poverty, those receiving welfare, those in sparsely populated areas, and those on active parole. These populations are often outside of the mainstream economy and are in poverty. They usually have difficulty finding work because they have low levels of educational attainment, lack occupational skills, or face geographic or other barriers. They are a potential human resource, but investment in training, transportation, child care, infrastructure, etc. may be needed to tap this resource.

In-migration is one way of growing the labor force as it helps population growth. The region's population growth rate is adequate to meet the expected long term job demands barring future economic slowdowns. Higher employment demand could be served by in-commuting. However, new residents can be attracted using the higher-paying job opportunities from the region's economic development successes. Investment in amenities and infrastructure may be needed to support such growth. In-migration is generally more beneficial than in-commuting since it grows the economy faster and adds to the tax base.

Policies that facilitate and encourage older worker participation are needed as older workers can help meet the region's workforce challenge. Such policies can be related to income taxation, job flexibility, and retirement programs. As the share of older people in the population is projected to increase (see Table 4.5), it becomes even more important that they be active in the workforce. Older worker participation has been rising nationally since the early 1990s. This has been attributed to reasons including:

- Older workers can work longer because they are healthier
- The number of physically demanding jobs is falling
- Defined contribution plans are replacing pensions
- There are fewer employer-paid retiree health insurance programs
- Social security reforms affecting those born after 1938 (i) gradually raise the normal retirement age from 65 to 67, (ii) increase the rate at which monthly payments rise with delayed benefits, and (iii) eliminate the reduction in benefits for those working beyond the full retirement age.

Diversifying the region's economy will strengthen it. This demands that economic development also focus on retaining, expanding, and attracting businesses that provide more high-earning jobs. Current workers—including the underemployed—would welcome higher-earning opportunities. An economic development focus on diversification would require that workforce development pay attention to postsecondary and higher educational systems to ensure a ready and available workforce for new and expanding businesses. The higher incomes earned by graduates of these institutions would help raise personal income for the region and provide additional local (county and city) tax revenue. Raising personal income by improving educational attainment and technological skills is an effective economic development strategy even for a region that has relatively high population and labor force growth rates. Together, workforce development and economic development can build a strong, well-diversified economy. Indeed, one cannot achieve success without the other.